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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/387,555	09/01/1999	TOSHIYA TAKAHASHI	01489/P-2118	2734

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EXAMINER

KLIMACH, PAULA W

ART UNIT

PAPER NUMBER

2131

DATE MAILED: 07/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/387,555

Applicant(s)

TAKAHASHI, TOSHIYA O

Examiner

Paula W Klimach

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 September 1999.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Image object recording, compression, and encryption method and system.

Claim Objections

2. **Claims 1-6, and 20** are objected to because of the following informalities:

The claims read "...wherein in ..." they should read "...wherein...."

Appropriate correction is required. The above examples are illustrative only. Applicant is requested to ensure that any other instances are corrected.

Claim Rejections - 35 USC § 112

3. Claim 8 recites the limitation "the storage..." and "the transmission medium" in lines 15 and 16 respectively. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. **Claims 1-7, 9-19, 22, 23, and 24** are rejected under 35 U.S.C. 102(e) as being anticipated by Furukawa (6,526,171).

6. *In reference to claim 1, 10-13, 23, and 24*, Furukawa teaches a data processing method for storing or transmitting a plurality of object data respectively corresponding to a plurality of objects which compose a scene, and including object data as video data or audio data, and scene description data which describes how the plurality objects compose the scene, claim 1. The method disclosed by Furukawa includes an encryption step for encrypting at least object data corresponding to specified objects which are predetermined among the plurality of objects, claim 6; and a data output step for outputting respective object data and the scene description data to a storage medium or a transmission medium, column 1 lines 18-40.

7. *In reference to claim 2*, Furukawa further discloses a method wherein the data output step, encryption identifiers each indicating whether or not object data of a corresponding object

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included in the plurality of objects has been encrypted, are stored in the scene description data and output to the storage medium or the transmission medium, claim 6.

8. *In reference to claim 3*, Furukawa discloses a method wherein the data output step, control information required for encryption is stored in the scene description data and output to the storage medium or the transmission medium, claim 6 in combination with column 1 lines 18-40.

9. *In reference to claim 4*, Furukawa discloses an encryption step wherein only object data of the specified objects that is predetermined among the scene description data and the plurality of object data, is encrypted, claim 6.

10. *In reference to claim 5*, Furukawa teaches an encryption step where when encrypting the object data of the specified objects, plural different control information for the respective specified objects is used as control information required for encrypting the respective object data, claim 6.

11. *In reference to claim 7, 9, and 22*, Furukawa teaches a data processing method for storing or transmitting a plurality of object data respectively corresponding to a plurality of objects which compose a scene and including object data as video data or audio data, and scene description data which describes how the plurality objects compose the scene as follows: a compression step for compressing object data corresponding to each of the plurality of objects which compose the scene and outputting compressed object data, column 6 lines 50-55; an encryption step for sequentially encrypting at least compressed object data corresponding to specified objects which are predetermined among the plurality of objects, column 6 lines 50-55, according to control information for encryption of respective object data corresponding to the

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specified objects, claim 6 ; and a data output step for outputting respective compressed object data and the scene description data to the storage medium or the transmission medium, column 1 lines 18-40, wherein in said encryption step, control information for a target object corresponding to object data to be encrypted is encrypted according to control information for an encrypted object corresponding to previously encrypted object data, and encrypted control information is added to the previously encrypted object data, claim 6.

12. *In reference to claim 14-19*, Furukawa disclosed a image processing method as applied in claim 1 and 7 above respectively. In addition, Furukawa suggests deciding whether or not encrypted and compressed object data corresponding to the specified objects is reproducible; and performing reproduction of all object data including decryption and decompression of the encrypted and compressed object data corresponding to the specified objects and display of respective object data when deciding that the encrypted object data is reproducible, column 10 lines 60-64.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. **Claim 6** is rejected under 35 U.S.C. 103(a) as being unpatentable over Furukawa as applied to claim 1 above, and further in view of Hogg et al (4, 281, 216).

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Furukawa does not expressly disclose a type of control information required for encryption is changed with elapse of time after encryption of the object data starts.

Hogg discloses an encryption step, a type of control information required for encryption is changed with elapse of time after encryption of the object data starts, column 9 lines 19-23.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to add a key generation device, where the key changes with time, of Hogg to the image management system of Furukawa. One of ordinary skill in the art would have been motivated to do this because it would not be possible for the operator to bias the random nature of his input, column 9 lines 27-29.

15. **Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over Furukawa in view of Cox et al (5,915,027).

Furukawa discloses a data processing method for storing or transmitting a plurality of object data respectively corresponding to a plurality of objects which compose a scene and including object data as video data or audio data, and scene description data which describes how the plurality objects compose the scene, claim 1. Furukawa's processing method comprises a compression step for compressing object data corresponding to each of the plurality of objects that compose the scene, and outputting compressed object data, column 6 lines 50-55; an encryption step for sequentially encrypting at least compressed object data corresponding to specified objects which are predetermined among the plurality of objects according to first control information for encryption, claim 6; and a data output step for outputting respective

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compressed object data and the scene description data to the storage medium or the transmission medium claim 6 in combination with column 1 lines 18-40.

Furukawa also teaches the use of a watermark, but does not expressly teach the encryption step including encrypting the first control information according to second control information for encryption, dividing encrypted first control information into a plurality of information parts respectively corresponding to the specified objects, and adding the plurality of information parts to the object data of the specified objects, respectively.

Cox teaches an encryption step that includes encrypting the first control information according to second control information for encryption, abstract, dividing encrypted first control information into a plurality of information parts respectively corresponding to the specified objects, and adding the plurality of information parts to the object data of the specified objects, respectively, claim 1 in combination with column 4 lines 24-25.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to add a digital watermark as disclosed by Cox to the image processing information as disclosed by Furukawa. One of ordinary skill in the art would have been motivated to do this because owners of works in digital data form have a need to embed signals into video/images/multimedia data for purposes of authenticating copyright ownership, control, control and management, column 1 lines 22-26.

16. **Claims 21 and 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Furukawa as applied to claim 7 above, and further in view of Schneier.

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Furukawa does not expressly disclose restored object data is subjected to encryption for encrypting the first encryption.

Schneier discloses data is subjected to encryption for encrypting the first encryption, page 357 paragraph 15.1.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to encrypt the data multiple times using multiple keys. One of ordinary skill in the art would have been motivated to do this because this is a naïve way of improving security, page 357 paragraph 15.1.

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Furukawa	6,526,171
Hogg et al	4, 281, 216
Cox et al	5,915,027
Schneier	Applied Cryptography

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paula W Klimach whose telephone number is (703) 305-8421.

The examiner can normally be reached on Mon to Fri 7:15 a.m to 3:45 p.m.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on (703) 305-9648. The fax phone numbers for the

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organization where this application or proceeding is assigned are (703) 305-8421 for regular communications and (703) 305-8421 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4832.

PWK
July 2, 2003


AVAZ SHEIKH
SUPERVISORY PATENT EXAMINER
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